

ABSTRACT OF THE DISCLOSURE

The present invention relates to a vehicle mountable satellite antenna as defined in the claims which is operable while the vehicle is in motion. The satellite antenna of the present invention can be installed on top of (or embedded into) the roof of a vehicle. The antenna is capable of providing high gain and a narrow antenna beam for aiming at a satellite direction and enabling broadband communication to vehicle. The present invention provides a vehicle mounted satellite antenna which has low axial ratio, high efficiency and has low grating lobes gain. The vehicle mounted satellite antenna of the present invention provides two simultaneous polarization states. In one embodiment, the present invention provides a ridged waveguide instead of a conventional rectangular waveguide to alleviate the effects of grating lobes. The ridge waveguide provides a ridged section longitudinally between walls forming the waveguide. A plurality of radiating elements are formed in a radiating surface of the ridged waveguide.